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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,021	08/02/2001	Shane Chen	BWD:7945.005	8654
25866	7590	11/16/2005	EXAMINER	
STEVEN J. ADAMSON, PC P.O. BOX 5997 PORTLAND, OR 97228			PARSLEY, DAVID J	
			ART UNIT	PAPER NUMBER
			3643	
DATE MAILED: 11/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/922,021

Applicant(s)

CHEN, SHANE

Examiner

David J. Parsley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-10, 12, 14-16, 19, 21-25, 27, 28, 30 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-10, 12, 14-16, 19, 21-24, 27, 28, 30 and 32-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **Detailed Action**

### ***Amendment***

1. This office action is in response to applicant's amendment dated 9-2-05 and this action is final.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10, 12, 14-15, 19, 21-25, 27 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,956,896 to Miekka et al. in view of U.S. Patent No. 3,660,023 to Frevel et al. or U.S. Patent No. 6,305,122 to Iwao et al.

Referring to claims 8 and 15, Miekka et al. disclose a method for providing carbon dioxide gas to a plant comprising, forming a chamber – proximate 84, and enclosing at least a portion of the plant with the chamber – see for example figure 6, providing a gas source – at the interior of 78 and/or 80 and/or at the end of 84 and/or – at 76 and/or – proximate 12, connected to the chamber, substantially free of carbon dioxide – see for example figure 6 and columns 3-4, providing a carbon dioxide generator – at 18-20, 78 and 82-84, in fluid communication with the

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chamber and the gas source – see for example figure 6, the generator comprising a vessel – at 18-19, containing an aqueous solution of at least one of hydrogen carbonate ions and carbonate ions – column 3 lines 15-65 and column 4 lines 1-12 and 46-60, producing carbon dioxide from the aqueous carbonate solution by processing the solution in a way that causes carbon dioxide in the solution to off-gas from the solution – see for example columns figure 6 and column 3 lines 15-65 and column 4 lines 1-12 and 46-60, and mixing the carbon dioxide with the first gas to produce a gas mixture having a determinable level of carbon dioxide and flowing the gas mixture into the chamber, by flowing a gaseous phase substance through the aqueous solution – see for example figure 6, adding a solid source of at least one of hydrogen carbonate ions and carbonate ions to the generator – see for example at 18-20 in figure 6 and columns 3-4, wherein the step of producing carbon dioxide from the aqueous carbonate solution includes producing the carbon dioxide substantially without the addition of acid – see for example figure 6 and columns 3-4. Miekka et al. does not disclose adding a solid source of at least one of hydrogen carbonate ions or carbonate ions to the solution and causing in the solution the formation of carbon dioxide from the solid source of at least one hydrogen carbonate ions and carbonate ions in a manner substantially without the addition of acid. Frevel et al. and Iwao et al. both disclose adding a solid source of at least one of hydrogen carbonate ions or carbonate ions to the solution and causing in the solution the formation of carbon dioxide from the solid source of at least one hydrogen carbonate ions and carbonate ions in a manner substantially without the addition of acid – see for example column 1 lines 59-75 and column 2 lines 1-55 of Frevel et al. and column 1 lines 44-63 of Iwao et al. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Miekka et al. and add the formation of carbon dioxide from carbonate

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ions added to a solution free of acid of Frevel et al. or Iwao et al., so as to allow for the process to be safer and less expensive.

Referring to claims 9, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the step of agitating the solution to produce the carbon dioxide – figure 6 and columns 3-4 of Miekka et al.

Referring to claim 10, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the step of agitating the solution comprises flowing the first gas through the aqueous solution – see for example figure 6 of Miekka et al.

Referring to claims 12 and 24-25, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses producing carbon dioxide from the aqueous solution by flowing a gaseous phase material through the aqueous solution – see figure 6 of Miekka et al.

Referring to claims 14 and 33, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the step of producing carbon dioxide from the aqueous solution including evacuating a gaseous phase substance above a top surface of the solution – at 82 as seen in figure 6, so as to facilitate diffusion of carbon dioxide from the solution into the evacuated space – see for example figure 6 of Miekka et al.

Referring to claims 19, 32 and 34, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the step of channeling a gaseous substance containing carbon dioxide from the aqueous carbonate solution to a defined output – see for example – at 80-84 in figure 6 of Miekka et al.

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Referring to claims 21 and 27, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the step of flowing the aqueous solution through the vessel – see for example figure 6 of Miekka et al.

Referring to claim 22, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each further discloses the enclosure – at 2 or 6 is a greenhouse – see for example figures 1 and 6 of Miekka et al.

Referring to claim 23, Miekka et al. discloses a method for providing carbon dioxide to an environment comprising, placing a carbon dioxide generator – 18-20 and 82-84, in the environment, the generator comprising a vessel – at 18-19 and/or 80, containing an aqueous solution of at least one of hydrogen carbonate ions and carbonate ions – see for example columns 3-4, processing the aqueous solution to produce carbon dioxide – see for example figure 6, by causing carbon dioxide in the solution to diffuse from the solution – see for example figure 6 and columns 3-4, wherein the carbon dioxide is produced substantially without addition of acid to the aqueous solution – figure 6 and column 4 lines 46-59, and producing carbon dioxide from the aqueous solution in a sufficient quantity so as to elevate the level of carbon dioxide in the environment – see for example figure 6 and column 4 lines 46-59, and adding a solid source of at least one of hydrogen carbonate ions and carbonate ions to the generator – see for example figure 6 and columns 3-4. Miekka et al. does not disclose forming carbon dioxide in the solution from the solid source of at least one of hydrogen carbonate ions or carbonate ions in such a manner that does not include the substantial addition of the acid to the solution. Frevel et al. and Iwao et al. both disclose forming carbon dioxide in the solution from the solid source of at least one of hydrogen carbonate ions or carbonate ions in such a manner that does not include the substantial

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addition of the acid to the solution – see for example column 1 lines 59-75 and column 2 lines 1-55 of Frevel et al. and column 1 lines 44-63 of Iwao et al. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Miekka et al. and add the formation of carbon dioxide from carbonate ions added to a solution free of acid of Frevel et al. or Iwao et al., so as to allow for the process to be safer and less expensive.

Claims 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miekka et al. as modified by Frevel et al. or Miekka et al. as modified by Iwao et al. as applied to claims 15 or 23 above, and further in view of U.S. Patent No. 5,151,347 to Delente et al.

Referring to claim 16, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. each do not disclose the step of producing carbon dioxide from the aqueous solution by stirring the solution. Delente et al. does disclose the step of producing carbon dioxide from the aqueous solution includes the step of stirring the solution – at 14, to emit the carbon dioxide – see for example figures 1-2. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Miekka et al. as modified by Frevel et al. or Miekka et al. as modified by Iwao et al. and add the stirring of the solution of Delente et al., so as to allow for the carbon dioxide to be quickly formed and dispersed.

Referring to claim 28, Miekka et al. as modified by Frevel et al. and Miekka et al. as modified by Iwao et al. both do not disclose the environment is a plant-culturing environment. Delente et al. does disclose the environment is a plant-culturing environment – see for example columns 3-4. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Miekka et al. as modified by Frevel et al. or Miekka et al. as modified by Iwao et al.

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and add the environment being a plant-culturing environment of Delente et al., so as to allow for the increased growth of the cultured plant.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 8-10, 12, 14-16, 19, 21-25, 27-28 and 32-34 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.




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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Parsley whose telephone number is (571) 272-6890.

The examiner can normally be reached on Monday-Friday from 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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